BPM Meeting with AD Instrumentation Dept.

?? Held Tuesday, March 16, 2004

Church, Webber, Steimel, Keup, Page, Nicol, Peterson, Kerby, DiMarco, Feher, Tompkins, among attendees
List of BPMs required was presented along with our ignorance of many details...

?? Instrumentation Dept. (B.Webber) said that TD had made old BPMs...

B. Webber noted that low beta quad BPM's (our 'reference design') differ from the ring quad mounted BPM's: they are significantly shorter
M. Church said that he wanted the Instrumentation Dept to provide the BPM assemblies, calibrated, to TD. TD would install, align, and measure offsets. AD & TD will work with AMG (alignment group) to determine suitable final reference monuments

?? **AD (C0-IR & Instr. Dept.) need to determine specifications for BPMs**

mechanical tolerances
alignment tolerances
internal cable, connectors, feed throughs
acceptable connector positioning (see below)
other electrical, mechanical, & vacuum requirements

?? **TD needs to:**

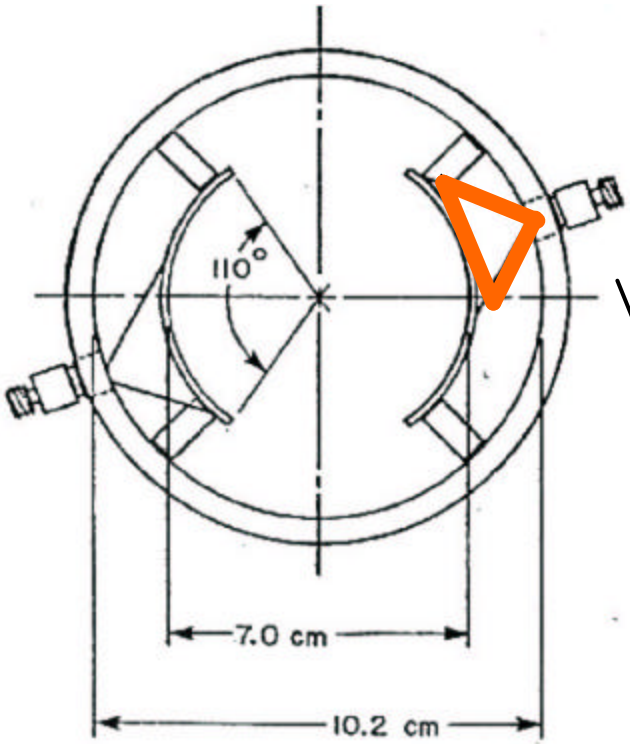
provide drawings of low beta quad BPM's (begun)
determine interface details – pipe sizes, flanges, lengths
investigate piping interferences with bpm connectors
find existing BPM parts for further study
determine location (PPD?) and status of 53MHz calibration system

?? **We have begun to communicate and have taken the first steps towards getting organized...**

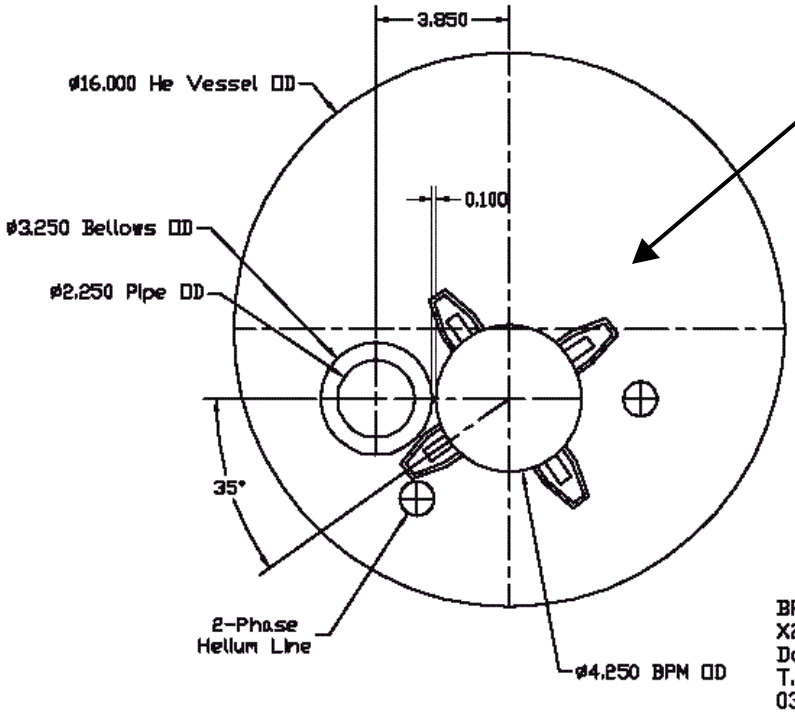
BPM's for C0 IR project — M. Church — 3/16/2004

lattice file name	type	location	BPM house	comments	Tevatron installation	delivery date	responsible for installation
HBPMC0U, VBPMC0U	H/V pair	u.s. end of C0 long straight section	B4	warm BPM's; standalone device; could be 2 separate devices; to be removed in 2009 shutdown	2005 shutdown	8/05	R Reilly
HBPMC0D, VBPMC0D	H/V pair	d.s. end of C0 long straight section	C1	warm BPM's; standalone device; could be 2 separate devices; to be removed in 2009 shutdown	2005 shutdown	8/05	R Reilly
HBPMD48	H	QD48 32" quad	D4	cold BPM installed (or modified) in 32" quad to accommodate new synch light monitor; other options possible (?)	2005 shutdown	1/05?	?
				spare for above; installed in spare 32" quad		1/05?	
HBPMA49	H	A49 cold spool	A4	installed in 79" cold spool; replaces HBPMA49 when P spool is removed; could be H/V pair	2006 shutdown	1/06	J Theilacker
				spare for above; installed in cold spool		1/06	
HBPMB11	H	B11 cold spool	B1	installed in 120" cold spool; replaces HBPMB11 when P spool is removed; could be H/V pair	2006 shutdown	1/06	J Theilacker
				spare for above; installed in cold spool		1/06	
HBPMB47, VBPMB47	H/V pair	X2L spool @ B47	B4	cold BPM installed in new X2L spool	2009 shutdown	5/07	J Tompkins
				spare for above; installed in spare X2L		5/07	
HBPMB48, VBPMB48	H/V pair	X2R spool @ B48	B4	cold BPM installed in new X2R spool	2009 shutdown	5/07	J Tompkins
				spare for above; installed in spare X2R		5/07	
HBPMB49, VBPMB49	H/V pair	X3 spool @ B49	B4	cold BPM installed in new X3 spool	2009 shutdown	5/07	J Tompkins
				spare for above; installed in spare X3		5/07	
HBPMC0U, VBPMC0U	H/V pair	Q1 low beta quad @B49	B4	cold BPM installed in new Q1 quad; might have to be warm if we run out of space in quad (?)	2009 shutdown	4/07	J Tompkins
				spare for above (if not warm); installed in spare Q1		4/07	
HBPMC0D, VBPMC0D	H/V pair	Q1 low beta quad @C11	C1	cold BPM installed in new Q1 quad; might have to be warm if we run out of space in quad (?)	2009 shutdown	4/07	J Tompkins
HBPMC11, VBPMC11	H/V pair	X3 spool @ C11	C1	cold BPM installed in new X3 spool	2009 shutdown	5/07	J Tompkins
HBPMC12, VBPMC12	H/V pair	X2R spool @ C12	C1	cold BPM installed in new X2R spool	2009 shutdown	5/07	J Tompkins
HBPMC13, VBPMC13	H/V pair	X2L spool @ C13	C1	cold BPM installed in new X2L spool	2009 shutdown	5/07	J Tompkins

BPM Positioning Issues



Connections to the strip lines are impacted by piping clearances. The angle w/res to the midplane (or vertical) will potentially cause non-uniform position sensitivity



BPM's for C0 IR project M. Church 3/16/2004

Possible specs:

1) 2.7" minimum aperture
2) readout for both protons and pbars
3) warm devices bakeable to 120degC
4) vacuum specs: ??
5) alignment specs: placed to within 1mm of quad center; mechanical offset measured to within .5mm
6) electrical specs: 30dB directionality @53MHz; DC Hipot to ??V
7) mechanical specs (flanges, max OD, max length,…)
8) type N feedthrough connectors